

REMARKS

Favorable reconsideration, reexamination, and allowance of the present patent application are respectfully requested in view of the foregoing amendments and the following remarks.

Personal Interview

Applicant appreciates the courtesies extended to Applicant's representative during the personal interview. The points discussed during the personal interview are incorporated herein.

Summary of Office Action

The Office Action objects to claim 29 due to minor informalities.

The Office Action rejects claims 1-3, 8, 20-21 and 26-30 under 35 U.S.C. § 103(a) as being unpatentable over Patent Pub. No. 2003/0227774 to Martin *et al.* ("Martin") in view of U.S. Patent No. 6,371,636 to Wesson ("Wesson").

The Office Action rejects claims 4, 9, 10 and 22 under 35 U.S.C. § 103(a) as being unpatentable over Martin and Wesson in view of U.S. Patent Pub. No. 2001/0010634 to Yokoi ("Yokoi").

The Office Action rejects claims 5 and 23 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Yokoi.

The Office Action rejects claims 6 and 24 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of U.S. Patent No. 5,890,794 to Abtahi ("Abtahi") and U.S. Patent No. 3,633,022 to Sassmannshausen ("Sassmannshausen").

The Office Action rejects claims 7, 15, 16, and 25 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Wesson and further in view of U.S. Patent No. 4,654,629 to Bezos *et al.* ("Bezos").

The Office Action rejects claims 11-12 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Wesson and further in view of Abtahi.

The Office Action rejects claim 13 under 35 U.S.C. § 103(a) as being unpatentable over

Martin in view of Wesson and Yokoi and further in view of Abtahi.

The Office Action rejects claim 14 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Yokoi and further in view of Abtahi.

The Office Action rejects claim 17 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Wesson and Yokoi and further in view of Bezos.

The Office Action rejects claim 18 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Yokoi and further in view of Bezos.

The Office Action rejects claim 19 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Abtahi and Sassmannshausen and further in view of Bezos.

Summary of Response to Office Action

In Response to the Office Action, Applicant hereby amends claims 5, 6, 26 and 28 and cancels claim 29 without prejudice or disclaimer. Accordingly, claims 1-28 and 30 are currently pending and claims 1, 5, 6, 26 and 28 are the pending independent claims.

I. Claim Objections

The Office Action objects to claim 29 as being an improper dependant claim for failing to limit the subject matter of a previous claim. The objection is respectfully traversed.

By this Amendment, claim 29 is cancelled without prejudice or disclaimer. Thus, it is respectfully submitted that the objection to claim 29 is now moot.

II. Rejection of Claims 1-3, 8, 20, 21 and 26-30 Under 35 U.S.C. § 103(a)

The Office Action rejects claims 1-3, 8, 20, 21 and 26-30 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Wesson. The rejection is respectfully traversed.

With respect to claim 1, the Office Action asserts that Martin discloses each of the features of claim 1 except a second LED array with the LED chips arranged in a row which extends substantially perpendicular to the optical axis. The Office Action further asserts that Wesson discloses a second LED array with the LED chips arranged in a row that extends

substantially perpendicular to the optical axis.

Martin discloses an axial LED source lamp having LED light sources that are placed about the lamp axis in a parallel/axial arrangement. The lamp includes a post with post facets where the LED sources are mounted. The lamp axis according to Martin is along the direction of light emission.

Wesson relates to an LED module for specific use in vehicle tail, brake or turn signal lamp fixture for integrated single and dual element operation. The Figures of Wesson illustrate the replacement of conventional incandescent bulbs with LEDs. Fig. 21 of Wesson cited in the Office Action shows a single array of LEDs formed along a top surface of the lamp. None of the Figures of Wesson illustrate multiple arrays of LEDs.

Therefore, the combination of Martin and Wesson fails to teach or suggest a light source holder shaped in a substantially polygonal form having sides and a longitudinal axis in a direction that is substantially parallel with an optical axis of said lamp, wherein a first side includes at least a first LED array with the LED chips arranged in a row that extends substantially parallel to the optical axis and a second side includes at least a second LED array with the LED chips arranged in a row that extends substantially perpendicular to the optical axis, as recited in claim 1. In Wesson, the LED array is formed on a top surface of the lamp and not formed on a side of a light source holder shaped in a substantially polygonal form having sides and a longitudinal axis in a direction that is substantially parallel with an optical axis of said lamp, as recited in claim 1. Furthermore, the claimed feature "a second LED array with the LED chips arranged in a row that extends substantially perpendicular to the optical axis" provides a basic projected image of the LED array having a longitudinal direction that is parallel to the horizontal line (paragraph [0053]). This configuration achieves light/dark contrast because the basic projected images overlap with one another to form a light distribution pattern. Also, with such a configuration, it is not necessary to use a shade to provide a clear light/dark boundary. In contrast, if the LED arrays 22U and 22D are located on a top and bottom surface of the light source holder so that their longitudinal axis is along the optical axis of the vehicle lamp, then the basic projected image is as shown in Fig. 9 of the instant application and it is difficult to achieve

sufficient light/dark contrast.

Therefore, the combination of Martin and Wesson does not provide the Applicant's invention as recited in claim 1. In fact, combining the teachings of Martin and Wesson would result in a device with an entirely different configuration than Applicant's invention as recited in claim 1 (the resulting device would have a row of LEDs on the top surface of the lamp). Furthermore, it would not be obvious to combine and modify the teachings of Martin and Wesson to arrive at Applicant's invention as recited in claim 1. Thus, withdrawal of the rejection of claim 1 under 35 U.S.C. § 103 is respectfully requested. Withdrawal of the rejection of dependant claims 2, 3, 8, 20 and 21 under 35 U.S.C. § 103 is respectfully requested for the reasons described above and for the additional features which those claims recite.

With respect to claims 26 and 28, the Office Action asserts that Martin discloses each of the features of those respective claims expect for a row of LEDs that extends substantially perpendicular to the optical axis. The Office Action further asserts that Wesson supplies this feature and that it would have been obvious to one of ordinary skill in the art to combine Martin and Wesson to arrive at the invention recited in claims 26 and 28.

As described above with respect to claim 1, the combination of Martin and Wesson fails to teach or suggest a light source, wherein at least one row of LED chips extends substantially perpendicular to an optical axis, as recited in claims 26 and 28.

Furthermore, the combination of Martin and Wesson fails to teach or suggest, wherein at least one of the at least three LED arrays is capable of being tilted backward individually to reduce the depth of the reflective surface, as recited in claim 26. Figures 20 and 22 of Martin show all of the LED arrays formed along a sloping light source holder (Fig. 20) or LED arrays formed along an arc shaped light source holder (Fig. 22). However, neither Martin nor Wesson teaches or suggests that an LED array is capable of being tilted back individually. Therefore, withdrawal of the rejection of claim 26 and dependant claim 27 under 35 U.S.C. § 103 is respectfully requested.

The combination of Martin and Wesson also fails to teach or suggest a light source holder including at least three surfaces that each extend substantially parallel to the optical axis of the LED type lamp ... wherein the at least one row of LED chips is arranged substantially perpendicular to the optical axis along one of the at least three surfaces and wherein light emitted from the at least one row of LED chips is emitted along a direction substantially perpendicular to the optical axis of the LED type lamp, and wherein at least one row of LED chips is offset from an adjacent row of LED chips in a longitudinal direction with respect to each other, as recited in claim 28. The LED arrays of Martin are directly adjacent to the neighboring LED array. Wesson discloses only a single LED array. Therefore, the combination of Martin and Wesson does not teach or suggest at least one row of LED chips is offset from an adjacent row of LED chips, as recited in claim 28. Therefore, withdrawal of the rejection of claim 28 and dependant claim 30 under 35 U.S.C. § 103 is respectfully requested.

III. Rejection of Claims 4, 9, 10 and 22 under 35 U.S.C. § 103(a)

The Office Action rejects claims 4, 9, 10 and 22 under 35 U.S.C. § 103(a) as being unpatentable over Martin and Wesson in view of U.S. Patent Pub. No. 2001/0010634 to Yokoi ("Yokoi"). The rejection is respectfully traversed.

The Office Action alleges that Martin and Wesson disclose each of the elements of claims 4, 9, 10 and 22 and that Yokoi discloses a shade which is not disclosed in Martin and Wesson. However, claims 4, 9, 10 and 22 are dependant claims and Yokoi fails to supply the deficiencies of Martin and Wesson which were described above in connection with claim 1. Therefore, the combination of Martin, Wesson and Yokoi fails to teach or suggest the invention recited in dependant claims 4, 9, 10 and 22. Therefore, withdrawal of the rejection of claims 4, 9, 10 and 22 under 35 U.S.C. § 103 is respectfully requested.

IV. Rejection of Claims 5 and 23 under 35 U.S.C. § 103(a)

The Office Action rejects claims 5 and 23 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Yokoi. The rejection is respectfully traversed.

As described above, Martin only discloses an axial LED source lamp having LED light sources that are placed about the lamp axis in a parallel/axial arrangement. The lamp includes a post with post facets where the LED sources are mounted. The lamp axis according to Martin is along the direction of light emission. Yokoi discloses a vehicle headlamp that includes a bulb supporting base fixed to a reflector of a vehicle headlight that is provided with a deviation-preventing member having first and second upper and lower strips. Yokoi provides a movable shade (22, Fig. 2 of Yokoi) having a cylindrical shade body with a rear edge forming complex projections and depressions and a plate shaped shade leg extending downwardly from a lower end portion of the shade body.

Neither Martin nor Yokoi discloses a shade located in a lateral direction from the light source holder, the shade having a longitudinal axis and the longitudinal axis forming an angle between 0° and 90° with respect to the optical axis of the lamp and the shade being located between at least one of the plurality of light sources and a projection lens, and wherein each reflective surface has a first focal point at a corresponding LED array and a second focal point in the vicinity of a focus of the projection lens, as recited in claim 5. The claimed configuration can form a beam of lights that is reflected from the four reflective surfaces and converge on the second focal point. The shade blocks a part of the beam to produce a semicircle, rectangle or similar shape which is reversed and projected forward through the claimed projection lens. The combination of Martin and Yokoi does not provide these features and/or operational characteristics. Thus, the combination of Martin and Yokoi fails to provide the Applicant's invention as recited in claim 5. Therefore, withdrawal of the rejection of claim 5 under 35 U.S.C. § 103 is respectfully requested.

Withdrawal of the rejection of dependant claim 23 is respectfully requested for the reasons described above and the additional features which claim 23 recites.

V. Rejection of Claims 6 and 24 under 35 U.S.C. § 103(a)

The Office Action rejects claims 6 and 24 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of U.S. Patent No. 5,890,794 to Abtahi ("Abtahi") and U.S. Patent No. 3,633,022 to Sassmannshausen ("Sassmannshausen"). The rejection is respectfully traversed.

The Office Action asserts that Martin discloses each of the elements of claim 6 except for a cylindrical lens. The Office Action further asserts that Abtahi discloses that at least one of the LEDs includes a cylindrical lens having a longitudinal axis in a row direction of the at least one LED array and that Sassmannshausen discloses a cylindrical lens that changes an emission angle of light emitted from at least one light source to be a wider angle. Thus, the Office Action asserts that it would have been obvious to one of ordinary skill in the art to use a plurality of lenses in the apparatus of Martin, Abtahi and Sassmannshausen to direct light as desired.

As described above, Martin discloses an axial LED source lamp having LED light sources that are placed about the lamp axis in a parallel/axial arrangement. The lamp includes a post with post facets where the LED sources are mounted. Abtahi only discloses a single transparent cover which covers substantially the entire light emitting surfaces of the lighting device in order to protect the device from atmospheric conditions when used with a gasket 86. Sassmannshausen discloses a double beam whereby a single collective lens projects a first beam from a bulb and a reflector, whose shape deviates from a geometric parabola, projects a second beam from a bulb.

Thus, the combination of Martin, Abtahi and Sassmannshausen fails to disclose or suggest a cylindrical lens formed separately over each of the at least one individual LED arrays, as recited in claim 6. As described above, Martin does not disclose any type of cylindrical lens, while the lenses of Abtahi and Sassmannshausen are not formed separately over each of the at least one individual LED arrays, as recited in claim 6. Furthermore, it is respectfully submitted that such a modification of Martin, Abtahi and Sassmannshausen would not have been obvious to one of ordinary skill in the art. Therefore, withdrawal of the rejection of claim 6 under 35 U.S.C. § 103 is respectfully requested. Furthermore, withdrawal of the rejection of dependant

claim 24 is requested for the reasons described above and for the additional features which claim 24 recites.

VI. Rejection of Dependant Claims 7, 11-19 and 25 Under 35 U.S.C. § 103

The Office Action rejects claims 7, 15, 16, and 25 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Wesson and further in view of U.S. Patent No. 4,654,629 to Bezos *et al.* ("Bezos"). The Office Action also rejects claims 11-12 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Wesson and further in view of Abtahi. The Office Action further rejects claim 13 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Wesson and Yokoi and further in view of Abtahi. The Office Action also rejects claim 14 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Yokoi and further in view of Abtahi. The Office Action also rejects claim 17 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Wesson and Yokoi and further in view of Bezos. The Office Action further rejects claim 18 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Yokoi and further in view of Bezos. The Office Action also rejects claim 19 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Abtahi and Sassmannshausen and further in view of Bezos. These rejections are respectfully traversed.

Dependant claims 7, 11, 12, 13, 15, 16, 17 and 25 all depend either directly or indirectly from claim 1. Dependant claims 14 and 18 depend from claim 5 and dependant claim 19 depends from claim 6.

Each of the Martin, Abtahi, Sassmannshausen, Yokoi was discussed above. Bezos merely discloses a vehicle marker light in which LEDs 12 are arranged to face in the direction of a lens 33.

It is respectfully submitted that each of the additional references fails to supply the deficiencies of Martin and Wesson as applied to independent claim 1, the deficiencies of Martin and Yokoi as applied to independent claim 5 and the deficiencies of Martin, Abtahi and Sassmannshausen as applied to independent claim 6. Therefore, withdrawal of the rejection of dependant claims 7, 11-9 and 25 under 35 U.S.C. § 103 is respectfully requested.

Conclusion

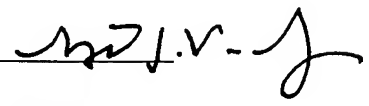
Applicant respectfully submits that the present patent application is in condition for allowance. An early indication of the allowability of this patent application is therefore respectfully solicited.

If the patent examiner believes that a telephone conference with the undersigned would expedite passage of this patent application to issue, they are invited to call on the number below.

It is not believed that extensions of time are required, beyond those that may otherwise be provided for in accompanying documents. If, however, additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and the Commissioner is hereby authorized to charge fees necessitated by this paper, and to credit all refunds and overpayments, to our Deposit Account listed on Applicant's initial application filing transmittal document.

Respectfully submitted,

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